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FACEBOOK, INC.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

ANGEL FRALEY; PAUL WANG; SUSAN
MAINZER; JAMES H. DUVAL, a minor, by
and through JAMES DUVAL, as Guardian ad
Litem; and W.T., a minor, by and through
RUSSELL TAIT, as guardian ad Litem;
individually and on behalf of all others
similarly situated,

Plaintiffs,

v.

FACEBOOK, INC, a corporation; and DOES
1-100,

Defendants.

CASE NO. 5:11-cv-01726-LHK

**DECLARATION OF CATHERINE TUCKER
IN SUPPORT OF FACEBOOK, INC.'S
OPPOSITION TO PLAINTIFFS' MOTION
FOR CLASS CERTIFICATION**

**[PUBLIC REDACTED
VERSION]**

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1 **1. Introduction**

2 1. I, Catherine Tucker, declare and state as follows:

3 2. I am the Douglas Drane Career Development Professor in IT and Management and
4 Associate Professor of Marketing at the Massachusetts Institute of Technology (“MIT”) in
5 Cambridge, Massachusetts. Prior to joining MIT, I received an undergraduate degree in Politics,
6 Philosophy and Economics from Oxford University in the United Kingdom and a PhD in economics
7 from Stanford University in 2005.

8 3. My academic specialty is applied microeconomics, with a focus on Online
9 Advertising, Online Networks, Privacy, and the Digitization of Data. I have published multiple
10 papers that quantitatively evaluate online advertising markets. In addition, I have conducted multiple
11 studies that examine, among other things, the interaction between privacy and online advertising,
12 advertising using social media, and other issues pertaining to law, public policy and online
13 advertising.

14 4. I am an Associate Editor at the academic journal Management Science. I am also
15 Associate Editor for the Information Systems Research Special Issue on Social Media and Business
16 Transformation and Co-Editor of the Information Economics and Policy Special Edition on The
17 Economics of Digital Media Markets. I received the National Science Foundation CAREER Award
18 which is the National Science Foundation’s most prestigious award in support of junior faculty who
19 “exemplify the role of teacher-scholars through outstanding research, excellent education and the
20 integration of education and research within the context of the mission of their organizations.” I have
21 testified about the impact of privacy regulation before Congress and presented my research on
22 privacy to the Federal Trade Commission. I have published multiple academic papers in leading
23 economic, management and marketing journals including the Journal of Political Economy,
24 Management Science and Marketing Science. I attach as Exhibit A a copy of my curriculum vitae,
25 which sets forth in detail my qualifications and experience.

26 **2. Assignment**

27 5. I have been retained by the Defendant Facebook in this litigation to provide my expert
28 analysis and opinion concerning: (i) the background and evolution of social forms of marketing,

1 including social marketing on Facebook; (ii) users' conduct and expectations when sharing Likes and
 2 other social actions on Facebook; (iii) the relative value and utility of Sponsored Stories and social
 3 marketing from the standpoints of users, Facebook, and organizations; and (iv) the impact of
 4 injunctive relief on constituents within the proposed class of Facebook users.

5 6. In formulating my opinions, in addition to my expertise in economics, marketing, law
 6 and privacy, I have considered and relied upon the pleadings in this case, data I have requested from
 7 Facebook, and various studies and information that are publicly available. A list of these materials is
 8 set forth in Exhibit B. I am being compensated for my time in this matter at my standard billing rate
 9 of \$1050 per hour.

10 **3. Summary of Opinions**

11 7. Sponsored Stories are part of the internet revolution in consumer-brand relationships.
 12 The internet has facilitated the development and proliferation of online brand communities, in which
 13 users – oftentimes identified by a name, photo or both – interact with a brand and with other members
 14 of the online community. Brands benefit from these communities, as do users, who seek and attract
 15 social approval through posting content online. Facebook's Sponsored Stories and earlier social
 16 marketing features allow users to connect with the organizations they like, and to communicate to
 17 other users their attachment to those organizations; in turn, they allow organizations to rebroadcast
 18 the user's Like or other social action to an audience of the user's choosing.

19 8. Plaintiffs claim that none of the 90+ million proposed class members understood or
 20 agreed that their usernames and profile pictures could be rebroadcast in sponsored or commercial
 21 content, but this claim cannot be reconciled with the fact that users have widely embraced the
 22 broadcasting (and rebroadcasting) of social actions on Facebook. Facebook Likes and other social
 23 actions (such as sharing a post or Checking In) are now ubiquitous features of the internet, and users
 24 – including named Plaintiffs in this case – expect that these actions will be broadcast to an audience
 25 of their choosing in many different contexts, including in commercial contexts like advertisements
 26 and Sponsored Stories. Indeed, many users make these social connections *because* they will be
 27 rebroadcast to their friends, but these users are nevertheless included in Plaintiffs' proposed class.
 28

9. Certain class members derive substantial benefits from the rebroadcast of their Likes and other social actions in Sponsored Stories, such that it is unreasonable to assume that they were not compensated for, did not agree to, or were harmed by the rebroadcast of their username, profile picture, and social action in Sponsored Stories. Identifying these individuals is not possible without an impossibly burdensome individualized inquiry into (i) their subjective motivations in Liking or otherwise connecting with organizations and (ii) the benefits they sought to and did receive. Empirical evidence demonstrates that these motivations and benefits vary widely. For example, many users Like or otherwise connect with organizations:

- i. To express affinity for an organization and spread the word about the organization to their Friends;
- ii. To earn tangible benefits, such as discounts, prizes and information resulting from the connection;
- iii. To promote their own products, brand or organization;
- iv. To affiliate themselves to their networks with an organization or product they perceive to be cool or hip;
- v. To communicate an aspect of their identity to their Facebook network;
- vi. To coordinate with their friends;
- vii. For political or social organizing; or
- viii. To promote the community by helping local businesses.

10. Likewise, the value of Sponsored Stories to organizations and to Facebook itself varies widely depending on the specific context and circumstances. There is little evidence that Facebook actually earns more on a per-click basis for Sponsored Stories than it does for regular ads. Indeed, there is substantial evidence that at least some Sponsored Stories are less valuable from Facebook's perspective. In the limited and individualized circumstances in which Facebook derives increased revenue from Sponsored Stories, this revenue cannot necessarily be attributed solely to the user endorsement, but may derive from the value of targeting like-minded individuals in a user's social network. Apportioning value in this manner cannot be done without a detailed evaluation of the composition of the featured user's social network, the user's credibility and relationship with

1 individuals within this network, and the user's affiliation with and relationship to the brand or
2 organization.

3 11. In many cases, the value that users gain from appearing in Sponsored Stories
4 substantially exceeds any revenue that Facebook derives. Users often receive valuable discount
5 coupons that, when redeemed, amount to substantially more than the \$.50 to \$2.00 Facebook would
6 earn from a click on a Sponsored Story promoting the organization. Likewise, users who endorse a
7 charity for the purpose of raising funds and awareness (such as in support of a sick family member)
8 may derive substantial value in the form of monetary contributions from their friends to that charity,
9 that again substantially exceed the value to Facebook. These are only two of many examples of the
10 types of scenarios where users are compensated for and benefit from the publication of their
11 endorsement in a sponsored context – but such users are nevertheless included in the class Plaintiffs
12 propose to certify.

13 12. Any proposed remedy that would eliminate or impact Sponsored Stories or
14 Facebook's ability to republish users' actions to their friends in a sponsored or commercial context
15 would adversely impact class members. Studies indicate that 84 percent of online users prefer the
16 collection and use of their information in exchange for free content (even where that is not obvious to
17 them, such as with traditional online behavioral advertising), and prohibiting Facebook from
18 engaging in Sponsored Stories would threaten its ability to innovate and provide the free service that
19 users enjoy and expect. It also would prevent the many class members who benefit from and seek out
20 the opportunity to broadcast their Likes and social actions to others in a sponsored context – and who
21 enjoy receiving personalized content about their friends' affiliations – from enjoying those benefits.

22 **4. Background: Evolving Institutions, Social Interactions and Advertising**

23 13. The internet has revolutionized the way in which organizations communicate to and
24 with their customers. The emergence of a wide variety of online advertising models has allowed
25 organizations to both improve the relevance of advertising shown to consumers and more accurately
26 measure the effectiveness of advertisements deployed. The internet has made it easier for
27 organizations to build consumer relationships with their brands—typically, by building a virtual
28 “brand community” where the organization provides an online platform for consumers to express

their thoughts and feelings about the brand.¹ For example, ComBlu (2011) found there to be over 250 online brand communities from many different sectors and representing some of America's largest brands.²

14. Organizations attempt to build brand communities because consumers' participation in such communities enhances loyalty and satisfaction, empowerment, connection, emotional bonding, trust, and commitment towards the brand.³ Virtual brand communities have evolved into platforms for social interactions between and among users, which in turn strengthens the community. ComBlu (2011) found that 60% of online brand communities allowed users to upload some form of representative image or photo, representing an increase of roughly 20% from the previous year.⁴ This shows that more brands are finding value on their own websites from allowing users to establish an actual, personalized identity.⁵ Websites devoted to user-generated content and reviews such as Amazon.com and Yelp.com likewise allow users to register profiles and rate and/or offer their opinions on products and companies. Particularly on Yelp, users publish endorsements (or critiques) of companies alongside a personalized profile of the user. (Figure 1). Organizations that elicit positive user responses on sites like Yelp benefit from such personalized electronic user content.⁶

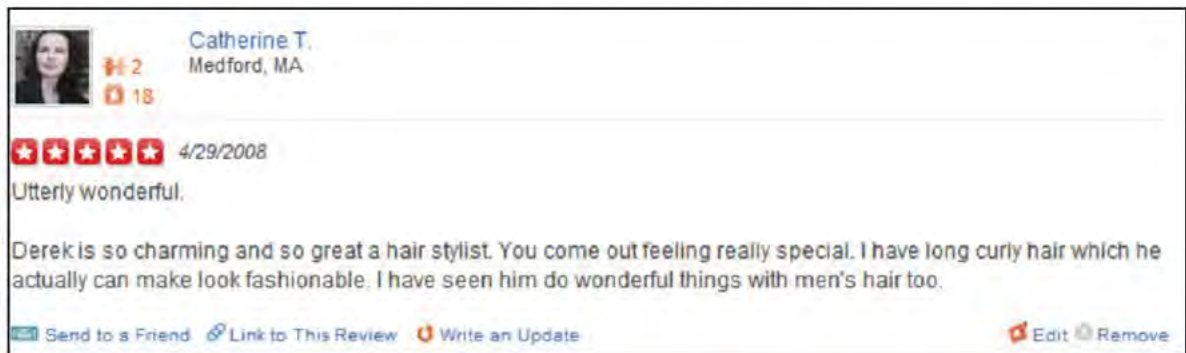


Figure 1: Earlier Yelp Review for a Local Hairdresser that Features my Photo and Name

¹ Albert M. Muniz, Jr. & Thomas C. O'Guinn, *Brand Community*, 27:4 J. Consumer Res. 412 (2001).

² ComBlu, *The State of Online Branded Communities: Studying Community Performance, Member Engagement and Social Media Integration of America's Top Brands* (2011).

³ Roderick J. Brodie et al., *Consumer Engagement in a Virtual Brand Community: An Exploratory Analysis*, J. Bus. Res. (2011).

⁴ ComBlu, *supra* note 2, at 18.

⁵ Luis V. Casalo et al., *Promoting Consumer's Participation in Virtual Brand Communities: A New Paradigm in Branding Strategy*, 14:1 J. Marketing Comm. 19 (2008).

⁶ Michael Luca, *Reviews, Reputation, and Revenue: The Case of Yelp.com*, (Harvard Business School, Working Paper No. 12-016, 2011).

15. Users are motivated to contribute information to online communities in part by the benefit they expect to derive from the community and in part by the sense of being able to provide feedback on products and services they use or care about and to enhance their own standing within the affected social community. Being noticed and valued by the community is a key driver of this behavior.⁷ [REDACTED]⁸

Reflecting this concept, “real identity” websites produce higher-quality reviews than comparable sites where contributions are anonymous.⁹

16. Academics now use the term “User-Generated Branding” (UGB) to refer to this confluence of brands and user-generated content.¹⁰ This encompasses natural UGB, which occurs unprompted without marketer involvement, and sponsored UGB, which occurs when organizations are “actively asking for consumer contributions of user-generated content through blogs, contests, voting, selected fan contributions or other forms of campaigns.”¹¹ In sum, there has been a proliferation and confluence of branding activities and social interactions online as individuals seek to express themselves through affinity for a brand.

4.1 Background: Evolution of Social Advertising on Facebook

17. Facebook embodies the broader convergence of social interaction and brand engagement on the internet. Sponsored Stories are just one of many types of online and interactive commercial communications with which Facebook has experimented.

18. Facebook’s stated mission is to give people the power to share and make the world more open and connected. Since early on in its existence, companies, politicians, charities, and other organizations have sought to engage Facebook users and their friends and connections on Facebook to replicate the branded communities discussed above. In particular, Facebook has allowed smaller,

⁷ Xigen Li, *Factors Influencing the Willingness to Contribute Information to Online Communities*, 13:2 New Media & Soc’y 279 (2011).

⁸ Taber Dep. 16:12-18:9, April 10, 2012.

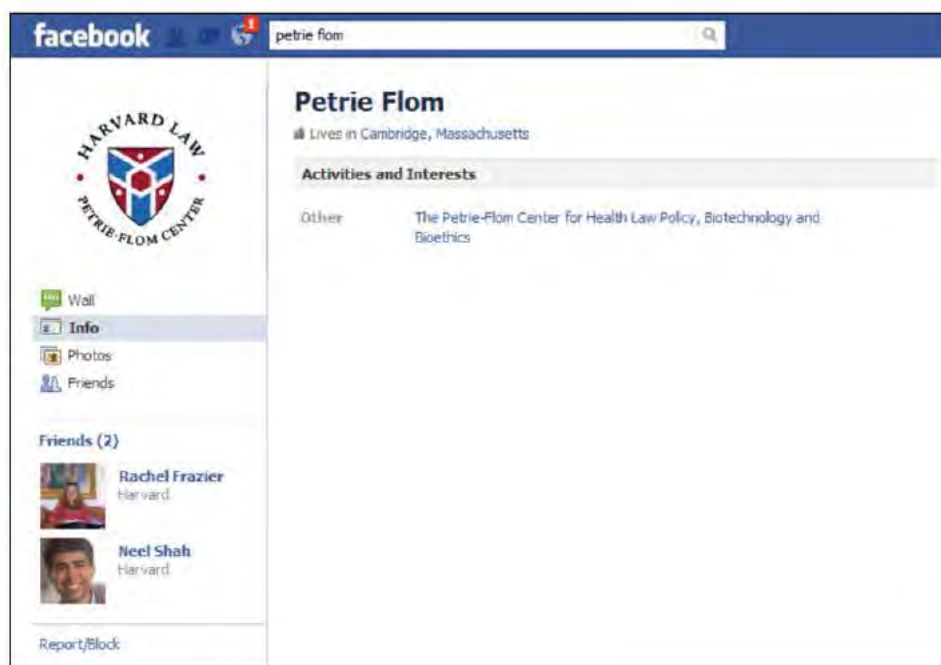
⁹ Zhongmin Wang, *Anonymity, Social Image, and the Competition for Volunteers: A Case Study of the Online Market for Reviews*, 10:1 B.E. J. Econ. Analysis & Policy (2010).

¹⁰ Christoph Burmann, *A Call for “User-Generated Branding,”* 18 J. Brand Mgmt. 1, 1 (2010).

¹¹ Burmann, *supra* note 10, at 2.

1 local, less established and more diverse organizations to use its platform to replicate the online brand
2 community-building efforts that larger organizations have developed on their own websites.

3 19. In Facebook's early days, organizations could interact with Facebook users in one of
4 two ways. First, users could become Friends of that organization. (See Figure 2). Second, the
5 organization could interact with users through a "Facebook group." As seen in Figure 3, users who
6 became members of the group had their Facebook profile picture and username depicted under the
7 subheading "Members" on the group's webpage. Their group affiliation was also posted to their
8 profile.



20 **Figure 2: Organization's Facebook Profile with Friends**

21 20. Facebook subsequently developed a product in November of 2007, called "Facebook
22 Pages," which allowed companies and organizations to create an official, branded "Page" on
23 Facebook, which users could then "Fan." As shown in Figure 3, being a Fan meant that your user
24 profile (profile picture and username) was visible on the company's Facebook page under the
25 heading "Fans." Similar to clicking a Like button, being a Fan of a Page was a public act which was
26 republished on the endorsing user's wall and was also visible on the organization's Facebook Page.



Figure 3: Example of a Facebook Group being used for a commercial purpose

21. Organizations did not pay directly for these initial forms of interactions with users, but the ability to leverage and create branded communities drove advertising revenues to Facebook and expanded the use of Facebook as a platform for user interactions with brands and organizations.

Figure 4: Fan Pages



22. Facebook launched “Social Ads” in parallel with Fan pages in November 2007, which allowed organizations to pay to highlight Fans of their page in ads. Specifically, in Social Ads, an organization could choose to display the fact that someone’s friend was a Fan of their product next to the text of ads that appeared on the right-hand side of a user’s Facebook wall. It could also use endorsing users’ social networks to target these ads to friends of existing fans. Social Ads offered attractive benefits to organizations, as they could add their own copy to enhance the presentation of users’ social actions. From a user’s perspective, however, the core endorsement—their public declaration that they were a Fan of an organization—was similar to the endorsement appearing organically on their friends’ “walls.” Nielsen (Figure 5) shows how the same user endorsement could appear organically on a user’s wall—which benefited the organization the user “Fanned” commercially even though the organization did not pay directly for this placement.

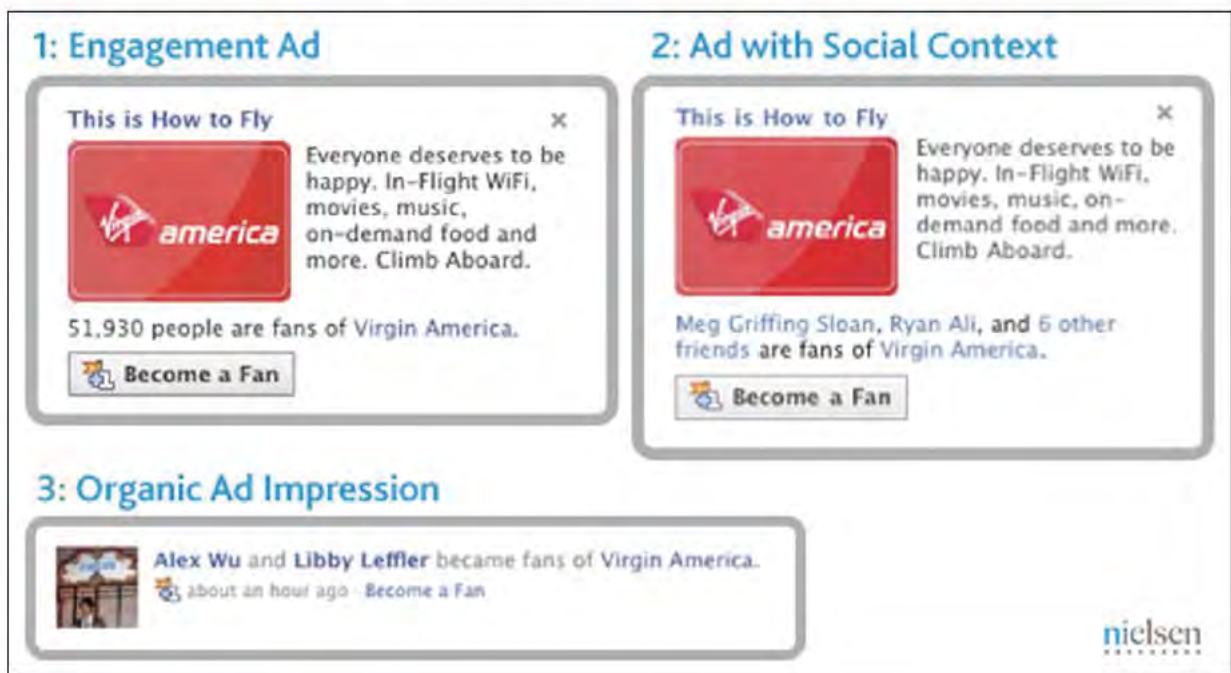


Figure 5: Social Ads with Fans

23. Facebook first implemented the Like button in February 2009, but it was only in April 2010 that Facebook replaced Fanning with Liking an organization’s page; by July 2010, Facebook

1 was serving three billion Like buttons through Facebook Pages daily.¹² In parallel, Facebook also
 2 launched social plug-ins which allowed third parties to offer the Like button on external webpages.

3 24. On January 25, 2011, Facebook announced “Sponsored Stories” to complement
 4 existing social marketing features. Sponsored Stories differed from these features by simply
 5 reporting the organic user endorsement or action rather than pairing it with more traditional ad text.
 6 This continued the system of organization-sponsored brand communities on Facebook, but allowed
 7 organizations to focus solely on the social endorsement or action, rather than explicitly pairing the
 8 action with a commercial message.

9 25. Initially, users’ Likes (and previously, Fans) were also published in the main
 10 Facebook News Feed, but since the introduction of the Ticker in September 2011 (which displays
 11 uploaded content in real time on the right-hand side of the Facebook page), I understand that most
 12 Likes are now most often displayed in the Ticker of users whom the featured user has authorized to
 13 see their Likes. Sponsored Stories can also appear in the News Feed, as well as on the right-hand
 14 side. For example, Figure 6 illustrates a Sponsored Story for Amazon.com which appears in the main
 15 News Feed and features a user’s discussion of the movie “Monsters, Inc.”

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¹² Kim-Mai Cutler, *Facebook Serves 3 Billion Like Buttons a Day*, Venture Beat (July 7, 2010, 10:40 AM),
<http://venturebeat.com/2010/07/07/facebook-like-buttons/>.



Figure 6: Sponsored Stories Published in News Feed

26. Over time, Facebook has given users increased control over how and to whom their Likes and other interactions with organizations are displayed. In early iterations of Facebook, relationships between users and organizations were often automatically public. In May 2010, Facebook introduced controls that allowed specific privacy settings for Page Likes.

27. Facebook users also have more control over their relationship and interaction with brands than do individuals interacting with brands through mainstream media. For example, a young cancer survivor started a Facebook page “Beautiful and Bald Barbie! Let’s see if we can get it made.”¹³ Figure 7 depicts the more than 158,000 Likes the user gained. Mattel responded by announcing that it would offer a Bald Barbie to honor cancer survivors.¹⁴

¹³ Christina Rexrode, *Young Cancer Survivors Lobby Mattel for Bald Barbie*, USA Today (Jan. 12, 2012, 11:25 AM), <http://www.usatoday.com/news/health/story/health/story/2012-01-11/Young-cancer-survivor-lobbies-Mattel-for-bald-barbie/52503118/1>.

¹⁴ Erin Skarda, *Mattel Agrees to Produce Bald Barbie After Viral Facebook Campaign*, Time (Mar. 30, 2012), <http://newsfeed.time.com/2012/03/30/mattel-agrees-to-manufacture-bald-barbie-amid-social-media-campaign/>.



Figure 7: Consumers exert control over organizations via Likes

28. This history of socially-enabled advertising on and off Facebook shows that social media is characterized by constant innovation and technological improvements. Facebook has had to perform a careful balancing act as an advertising-supported platform. Specifically, it has had to ensure that its two objectives—keeping its user-base engaged and funding itself through advertising—are aligned and do not conflict.

5. Sponsored Stories

29. I understand that Plaintiffs challenge only a recent iteration of social marketing referred to as Sponsored Stories. Given that, it makes sense to start with an illustration of what Sponsored Stories are and how they are generated.

30. To use a personal example, while I was browsing Facebook recently, I saw a Sponsored Story featuring the news that a friend of mine had Liked the “Monroe Carell Jr. Children’s Hospital at Vanderbilt” (Figure 8). I also “Liked” the hospital as a show of support and solidarity for my friend’s position, by clicking on the Like button that appeared in the Sponsored Story.



Figure 8: Sponsored Story

31. When one of my Facebook Friends subsequently visited his Facebook page, he viewed the news of my Like in his Ticker on the right-hand side of the page. If this Friend clicked the Like button on the Ticker, he would see a box containing my username, the logo of the hospital, my profile picture, and the statement that “Catherine Tucker Likes Monroe Carell Jr Children’s Hospital at Vanderbilt” (Figure 9). He can also see my Like statement by navigating to the “Likes” section of my profile (Figure 10). Furthermore, he can see my Like by navigating to the Monroe Carell Jr. Children’s Hospital at Vanderbilt Facebook Page (Figure 11). Notably, Facebook broadcasts my Like of Monroe Carell Jr. Children’s Hospital at Vanderbilt in Figure 9, Figure 10 and Figure 11 regardless of whether Monroe Carell Jr. Children’s Hospital at Vanderbilt paid Facebook to have them appear, but in all cases, only to the audience I have approved to view my Likes.

32. My friend could also see my Like next to a paid advertisement for the hospital, if the hospital ran Social Ads. If Monroe Carell Jr. Children’s Hospital is still running Sponsored Stories, the news of my Like may also be republished as a Sponsored Story of the kind that featured my friend (Figure 8) and that induced me to Like the hospital. The benefits to the hospital could be similar to those obtained from the broadcast of my Like in my friends’ Tickers and other locations on Facebook.

33. I am able to control the audience for my Likes via my Facebook privacy settings. These control the republication of Likes in both Sponsored Stories and in other settings, such as News Feed, the Ticker, timeline or individual profile. For example, I control the visibility of my

1 Likes by selecting whether Friends, Only Me, or other Customizable sets of people see them, using
2 the interface depicted in Figure 12. I can also “Unlike” the Monroe Carell Jr. Children’s Hospital at
3 Vanderbilt at any point in time, if I so choose. Only those Friends whom I had allowed to see my
4 initial Like (or other social connection)—that is, the same people who could have been exposed to it
5 in the manner depicted by Figure 9, Figure 10 and Figure 11—would be eligible to see the Sponsored
6 Story featuring my profile picture and username.



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18 **Figure 9: My Like is reported in my Friend's Ticker**



Figure 10: My Like is reported in the Likes section of my Facebook profile



Figure 11: My image and Like is reported to my friends on the hospital's Facebook Page



Figure 12: How I control who sees the Like

34. When I compare the way that Facebook reported the news of my Like in Figure 9, Figure 10 and Figure 11 with the way the Sponsored Story was published in Figure 8, the appearance is substantially similar. In both cases, a photo is associated with the hospital's name and logo and the core news that "[User] likes" the hospital was identical.

35. The organization benefits from all of these impressions, but pays directly for only some of them. Researchers emphasize the need for such transmissions of commercial messages to appear organic and authentic.¹⁵ Plaintiffs' expert David Taber also makes this point, quoting Seth Godin in saying that "nothing is more credible as someone who has nothing to sell" and noting that, compared to organic word-of-mouth, ads have low credibility.¹⁶ Logically, then, organizations may in certain instances actually benefit *more* from the more "organic" forms of transmission of Likes and other forms of social interaction in the News Feed, Ticker or in my profile or on the organization's Facebook page, than from the sponsored republication of these endorsements and activities.¹⁷ In any event, for both the organic and the paid impressions, the user endorsement remains the same.

36. As with this example, there are many ways that Facebook users might be exposed to the fact that someone Liked a brand or organization, in addition to or in lieu of Sponsored Stories. The user's endorsement and affiliation with the sponsor (and associated commercial benefits) takes place immediately upon someone pressing the Like button. Sponsored Stories merely facilitate

¹⁵ Francois Gossieaux & Ed Moran, *The Hyper-Social Organization: Eclipse Your Competition by Leveraging Social Media* (McGraw-Hill 2010).

¹⁶ Decl. of David Taber in Support of Pls.' Mot. for Class Certification ¶ 7(m).

¹⁷ See Decl. of Kevin M. Osborne in Supp. of Pls.' Mot. for Class Certification, Ex. 8 p. 10.

1 incremental rebroadcast of this Like, all of which, to varying degrees and depending on context, may
2 benefit users and may benefit the organization, whether or not it pays Facebook for that value.

3 **5.1 Other Forms of Sponsored Stories**

4 37. Other social interactions may be published to users in both organic and sponsored
5 settings. These include a) Likes or comments on a Pages post; b) Votes on a Pages question; c)
6 RSVPs to a Pages event; d) Check-ins to a place; e) Uses of an application or playing of a game; and
7 f) Likes or shares of a website. Some of these interactions—for example, comments on Page Posts
8 and Check-Ins—provide an opportunity for users to add commentary (positive or negative) about the
9 organization, product or brand. The variety of different modes of social interaction reflects the speed
10 of new technical innovation in this area, and demonstrates that this form of advertising is changing
11 rapidly to keep pace with innovation and social technology.

12 38. These new forms of user-brand generated content that are appearing in Sponsored
13 Stories are already growing in importance. [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 **6. Users' Expectations, Behaviors and Motivations When Engaging in Likes and Social** 18 **Actions**

19 **6.1 Users Expect Likes to Be Published in a Variety of Contexts**

20 39. Facebook's Like button is a popular and ubiquitous feature of the internet both on and
21 off Facebook. [REDACTED]

22 [REDACTED] The success of Facebook's Like button partially derives from the
23 widespread understanding that clicking Like results in the automatic publication of that Like, in
24 association with the user's Facebook profile name and photo, to users' Facebook Friends. On many
25 third-party websites, the Like button is offered without description or explanation given the pervasive

26
27 18 [REDACTED] Decl. of Christopher Plambeck in Supp. of Def.'s
Opp'n to Class Certification ("Plambeck Decl.") at ¶35.

28 19 [REDACTED] Plambeck Decl. at ¶37.

20 20 [REDACTED]; Plambeck Decl. at ¶¶ 40-41.

1 public awareness of what the icon represents and what happens when you click the Like button (often
2 in tandem with other social plug-ins like Twitter's "Tweet," Google's +1 button, Linked In's "In"
3 button, etc.).

4 40. In his seminal work on the diffusion of innovations, Everett Rogers shows that
5 innovation adoption is a process of uncertainty reduction and information gathering about the core
6 product and its potential applications.²¹ Under this framework, that so many users are clicking on
7 external Like buttons suggests that the Like button is an established mode of sharing endorsements
8 and affiliation with third parties within users' social networks.²²

9 41. The ubiquity of the Like button has led to a recent article declaring that "Likes are the
10 New Links."²³ Here the President of the Computer and Communications Industry Association states:
11 "Today, links are no longer the currency of the Internet, and people are finding more and more of
12 their information via their friends' "likes" in social media networks. . . . This change in the way users
13 consume information is providing a more personalized experience online as users get data culled not
14 just from websites, but also from those they know and trust." In other words, the practice of Liking
15 has become identified with the process of publishing information and information revelation.

16 42. Implicit in the act of clicking the Like button is an intent, or at a minimum an
17 awareness, that this Like will be broadcast to others.²⁴ Clicking a Like button is an inherently social
18 and communicative act that, at its core, functions to communicate a user's action to others. Put
19 another way, there is no reason to manifest one's affinity for a product or service through the Like
20 button unless the user wants to publicize the connection (since, obviously, the user herself knows
21 intrinsically what she "likes").

22 43. Moreover, because Facebook is constantly evolving and introducing new
23 improvements, products and layouts, users are unlikely to have static expectations as to how, where

24
25 ²¹ Everett M. Rogers, *Diffusion of Innovations* (The Free Press, 1st ed. 1962).

26 ²² Ritu Agarwal & Jayesh Prasad, *The Antecedents and Consequents of User Perceptions in Information Technology Adoption*, 22:1 *Decision Support Sys.* 15 (1998).

27 ²³ Edward J. Black, "Likes" Are the New Links, *Huffington Post* (Mar. 31, 2012, 4:47 PM),
http://www.huffingtonpost.com/edward-j-black/facebook-likes_b_1389374.html.

28 ²⁴ See Mainzer Dep. 123:12-124:6, Dec. 20, 2011; [REDACTED]

or in what form Likes or similar actions will be published. Although the fact that Likes (or the connections that predated the Like button) are published within social networks has remained constant, the manner in which Facebook has presented User-Organization relationships has evolved from Friend to Member to Fan to Like (and the locations where these affiliations are published have evolved continually).

44. The Expectation Confirmation Model ²⁵ underscores that firms must ensure that as their technology evolves, the way that users experience it still matches (or exceeds) the users' initial expectations when they adopted it. This model suggests that if the Like button and the way that Likes were being broadcast went against initial Facebook user expectations, users would be deterred from using the service (and conversely we would not have seen the meteoric rise in the use of the Like button and icon).

45. [REDACTED]

[REDACTED] ²⁶ Both the number of Likes and the number of impressions of Page Like Sponsored Stories show an upward trend in this time period. There is no sign of a decrease in the user base, which would have happened if users were discouraged from using the service after being exposed to Sponsored Stories featuring Likes.



Figure 13: Trends in Recent Usage

²⁵ Susan Brown et al., *Expectation Confirmation in Technology Use*, Info. Sys. Res. (June 2011).

²⁶ [REDACTED] Plambeck Decl. at ¶¶ 36, 39.

46. An analysis of people's behavior with respect to Facebook's Social Ad product also provides insights into how comfortable users are about the republication of their Likes to friends next to a paid advertisement. The primary difference in the presentation of the endorsement in Social Ads versus Sponsored Stories lies in whether the advertiser can pair the endorsement with ad-copy. Yet the fact that Social Ads have existed in some form since Fall 2007 provides evidence both of Facebook users' familiarity with the concept of socially-enabled sponsored brand content and their acceptance of it as part of their usage of the platform.

47. Users can control whether their Likes are paired with additional commercial messages in Social Ads. Although Facebook launched social advertising on Facebook in 2007, few users have exercised their ability to opt out. [REDACTED]

[REDACTED] The modest opt-out rate for Social Ads – in spite of users' widespread exposure to them – is further evidence that users accept such practices. Notably, opting out of Social Ads does not necessarily signify a user's objection to appearing in commercial messages. Instead, it could signal a misunderstanding of how social ads work or some unrelated preference.²⁹

48. [REDACTED]
[REDACTED]
[REDACTED] In these cases, a significant number of these users would be expected to understand that their Likes also could be rebroadcast as a Sponsored Story. [REDACTED]

This data suggests that a meaningful percentage of users appreciate that Likes could be republished to

²⁷ See Plambeck Decl. at ¶ 31.

²⁸ [REDACTED] Plambeck Decl. at ¶ 30.

²⁹ See Barry Schnitt, *Debunking Rumors about Advertising and Photos*, The Facebook Blog (Nov. 24, 2009, 11:42 AM), <https://blog.facebook.com/blog.php?post=110636457130> (discussing an unfounded rumor regarding Facebook's advertising policies that may have caused users to opt out of Social Ads where they otherwise would not have done so).

³⁰ [REDACTED] Plambeck Decl. at ¶ 25.

³¹ [REDACTED]

1 their networks in Sponsored Stories and may, [REDACTED]

2 [REDACTED] These individuals are nonetheless included in Plaintiffs' proposed class.

3 49. Moreover, many Facebook users have themselves run Sponsored Stories campaigns

4 [REDACTED]
5 [REDACTED] and there is no way to tell whether the individual(s)
6 setting up or purchasing these campaigns are also members of Plaintiffs' proposed class without
7 querying each one).³² Users who have taken steps to promote themselves or their cause or
8 organization through Sponsored Stories necessarily have an awareness that their own Likes may be
9 broadcast in Sponsored Stories or Social Ads as well. [REDACTED]

10 [REDACTED] Again, these users – who engage in Likes with full
11 awareness of their potential consequences – are included in Plaintiffs' proposed class.

12 **6.2 Users' Motivation and Benefits from Liking Vary.**

13 50. The republication of users' Likes on and off Facebook, in a variety of evolving
14 contexts, is a common feature of the internet. However, users' individual motivations and reasons for
15 Liking particular organizations are complex and far from uniform.

16 51. Table 1 reports results from a marketing research survey conducted by ExactTarget in
17 2010, which asked Facebook users why they Liked an organization's page.³⁴ The multiple reasons
18 given by even a single user emphasize that it would be necessary to query each individual to assess
19 his or her subjective motivations for a given instance.

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21
22
23
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26
27 ³² See Plambeck Decl. at ¶ 14.

28 ³⁴ ExactTarget with CoTweet, Subscribers, Fans, & Followers Report No. 5: Facebook X-Factors (2010).

Table 1: Why do people Like a company, brand or association on Facebook?

Motivation	Percentage
To receive discounts and promotions	40%
To show my support for the company to others	39%
To get a 'freebie' (e.g., free samples, coupon)	36%
To stay informed about the activities of the company	34%
To get updates on future products	33%
To get updates on upcoming sales	30%
For fun or entertainment	29%
To get access to exclusive content	25%
Someone recommended it to me	22%
To learn more about the company	21%
For education about company topics	13%
To Interact (e.g., share ideas, provide feedback)	13%

Source: ExactTarget with CoTweet, Subscribers, Fans, & Followers Report No. 5: Facebook X-Factors (2010) (survey of over 1,500 consumers).

6.3 Motivation and Benefits: Expressing Affinity.

52. The second most cited reason in Table 1 for Liking an Organization on Facebook is to “show my support for the company to others” (39% relative to 40% for the most popular option). This survey evidence suggests that a large number of consumers intend for their Like to be a public endorsement. For these users, Sponsored Stories facilitate their aim of publicly showing support for an organization by rebroadcasting their endorsement. Further survey research suggests that only 25% of people disagree with the statement that marketers should interpret a Like to mean they are a fan or advocate of the organization.³⁵ The named Plaintiffs’ experience with the Like button –

[REDACTED]

[REDACTED]

53. The extent to which user affinity is a primary motivator for using a Like button also varies across users. ExactTarget found that “[y]ounger consumers (aged 15-24) tend to use Like for purposes of self-expression and public endorsement of a brand” while “consumers aged 25 and up are more likely to expect something of value in exchange for their Like.”³⁷ However, the report

³⁵ ExactTarget with CoTweet, Subscribers, Fans, & Followers Report No. 10: The Meaning of Like (2011).

³⁶ [REDACTED]

³⁷ ExactTarget, *supra* note 35, at 6.

1 indicates that these age-groupings are not clean, and quotes a 43-year old, for example, who appears
 2 to subscribe to both philosophies: “Sometimes it’s like saying to your friends, I’m hip, I like cool
 3 companies. Sometimes I Like companies to get news about new product releases. A while ago, I
 4 Liked Apple iTunes because they gave out free music. So discounts are also a big deal. Antoinette
 5 (Female, age 43).”³⁸

6 **6.4 Motivation and Benefits: Tangible Compensation.**

7 54. The motivation behind a Like and the tangible or intangible benefits obtained for the
 8 Like varies across products, contexts and web-settings, even for the same individual.

9 55. As reflected in Table 1, there are many forms of tangible compensation that someone
 10 may get from a Like which may contribute to them Liking the organization. This is such a prevalent
 11 practice that there are companies that specialize in enabling organizations to run promotions that
 12 allow them to increase their number of users who interact with their brand. One case study suggested
 13 that incentivized pages got 200-300% higher click-to-fan conversion rates than regular landing
 14 pages.³⁹

15 56. Other users click on a Like button, in part, to receive more news about the
 16 organization. In this way, users explicitly “opt in” to receive news, promotions, and communications
 17 from an organization. Table 1 suggests that 34% of people have Liked an organization to stay
 18 informed about the activities of the organization, 33% have Liked an organization to stay updated
 19 about future products, and 30% have Liked an organization to get updated on future sales. In other
 20 words, in addition to discounts, people also Like an organization because they value the increased
 21 and customized information flows that result from that Like.

22 57. Sponsored Stories can directly facilitate users’ self-promotion goals. For example, in

23 [REDACTED]
 24 [REDACTED]
 25 [REDACTED] Indeed,

27 ³⁸ ExactTarget, *supra* note 35, at 5.

28 ³⁹ *How We Got to 40,310 Facebook Fans in 4 Days*, AllFacebook (June 21, 2010, 10:36 AM),
http://allfacebook.com/how-we-got-to-40310-facebook-fans-in-4-days_b15100.

1 Plaintiffs' proposed expert David Taber [REDACTED]

2 [REDACTED] This is not an isolated case.

3 For example, one user whose text was featured in a Sponsored Story for Stubhub writes: [REDACTED]

4 [REDACTED]

5 [REDACTED] Another user whose text was featured in a Sponsored Story writes: "I save so
6 much money shopping on this website and I find something I want to buy everyday. Check this out
7 for yourself and hook me up with some credits!"⁴¹



8
9
10
11
12
13 **Figure 14: An example of self-promotion**

14
15 58. This brand engagement process involves an explicit value exchange that is relatively
16 direct and transparent to users. This contrasts with much of the advertising-supported internet. Most
17 display advertising is organized by advertising networks that place cookies, usually without explicit
18 opt-in consent, on a user's computer – oftentimes without user awareness that this is happening. By
19 contrast, Facebook's model offers users the opportunity to use the Like Button model to exchange
20 their online activities for something tangible.

21 **6.5 Motivation and Benefits: Social Benefits from Perceived Affiliation with an
22 Organization**

23 59. Other benefits users may experience from the broadcast of their Likes and other social
24 actions are intangible, but nonetheless a significant factor in the implicit value exchange that occurs
25 when users broadcast their endorsement of an organization or cause. This is exemplified by a recent

26
27 40 [REDACTED]

28 41 [REDACTED] Plambeck Decl. at ¶ 38.

comment on a blog stating “there’s a social factor to liking some companies, like Zappos or toms shoes. It’s kind of like saying to your friends, “I’m hip, I like the hip companies.”⁴²

60. However, research shows variation across different types of products or organizations in terms of the public acclaim that users might want or expect to receive when endorsing them to their networks.⁴³ The need for acclaim changes with the social context. Research has shown that as social engagement and community participation increases, users are willing to pay more for the same good.⁴⁴

61. The republishing of a Like can bring status to a user and may allow them to maintain or develop a reputation as an expert or thought-leader among their friends. For example, a Facebook user said regarding a Sponsored Story for Ducati, [REDACTED]

[REDACTED] Another Facebook user said [REDACTED]

6.6 Motivation and Benefits: Signaling of Identity

62. Some users also receive value by associating themselves with an organization because they intend for that association to serve as a means of signaling their identity to Friends (rather than trying to enhance Friends’ perceptions of their identity). For example, Figure 15 shows a Sponsored Story featuring a user that Liked an atheist organization, while Figure 16 shows a Sponsored Story featuring a user that Liked “World Vision USA,” a Christian humanitarian organization dedicated to working with impoverished families. To the extent that these users Liked these organizations in order to signal their atheist and Christian views, respectively, to those in their social networks (which could be confirmed only by asking them), the republication of this association through a Sponsored Story would further this aim.

⁴² Ari Herzog, *What Companies Expect When You Click Like*, AriHerzog.com (Apr. 5, 2011), <http://ariherzog.com/liking-companies-on-facebook/>.

⁴³ Barry R. Schlenker, *Impression Management: The Self-Concept, Social Identity, and Interpersonal Relations* (Brooks/Cole 1980).

⁴⁴ Gal Oestreicher-Singer & Lior Zalmanson, *Paying for Content or Paying for Community? The Effect of Social Computing Platforms on Willingness to Pay in Content Websites* (July 16, 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1536768.

⁴⁵ [REDACTED]

⁴⁶ [REDACTED]

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2
3
4 **Figure 15: Religious Identity**

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9
10 **Figure 16: Cause-Based Identity**

11 **6.7 Motivation and Benefits: Coordination with Friends**

12 63. Certain actions that are republished in Sponsored Stories benefit featured users by
13 allowing them to coordinate with Friends. For example, rebroadcasting my RSVP to an event (such
14 as a local charity race) may encourage my Friends to attend the event or to train for the race with me,
15 thereby increasing my enjoyment of the event. Similarly, a geographical check-in at a place—such as
16 a hotel—may alert others to my arrival and may therefore be useful for coordinating plans. Users
17 who choose to engage in these activities on Facebook necessarily seek out the social context that
18 distinguishes Facebook from other online platforms.

19 **6.8 Motivation and Benefits: Local Community Building**

20 64. Another benefit of Sponsored Stories is the perception that there is an opportunity to
21 help or “spread the word” about small or local businesses who cannot afford to purchase advertising
22 campaigns of scale. For example, one Facebook user said [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]

26 [REDACTED]

27 47 [REDACTED]

28 48 [REDACTED]

6.9 Motivation and Benefits: Political Organizing

65. Facebook has evolved into an important vehicle for political expression and organization. Indeed, Facebook has become such a critical platform for political expression that some commentators dubbed the last political election as the “Facebook election.”⁴⁹ This is reflected in a recent survey demonstrating that 75% of Social Networking Site users say their Friends post at least some content related to politics and 47% of Social Networking Site users have clicked the Like button in response to political comments or material posted by someone else.⁵⁰

66. Politicians and politically-minded organizations of all sizes and views use Sponsored Stories and other forms of social advertising. For example, nationwide grass-roots organizations such as the [REDACTED] campaign⁵¹ have deployed Sponsored Stories, as have organizations such as the [REDACTED] (Figure 17). On a local level, a candidate campaigning to represent Precinct 4 in Arlington, Massachusetts, purchased a social ad (Figure 18). My local state representative was even featured in a Sponsored Story after he Liked an individual dedicated to protecting the interests of firefighters (Figure 19). A few of the many political organizations that have run Sponsored Stories include: The



Figure 17: Examples of Politically Affiliated Organizations Using Sponsored Stories

⁴⁹ Tom Johnson & Dave Perlmutter, “The Facebook Election: New Media and the 2008 Election Campaign” *Special Symposium*, 12:3 Mass Comm. & Soc’y 375 (2009).

⁵⁰ Lee Rainie & Aaron Smith, Pew Research Center’s Internet & American Life Project, *Social Networking Sites and Politics* (2012). These findings are from a survey conducted between January 20, 2012 and February 19, 2012 among 2,253 adults aged 18 and over, including 901 cell phone interviews.

⁵¹ This campaign attracted attention for its work on encouraging organizations to boycott Rush Limbaugh after his comments about Sandra Fluke, a Georgetown University law student.



Figure 18: A Local Political Social Ad



Figure 19: Firefighters' Legislative Agent

67. Certain actions that lead to Sponsored Stories also provide users with an opportunity to furnish political commentary that may be republished in Sponsored Stories. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7. Values and Compensation in Sponsored Stories and Social Advertising

68. Facebook attempts to maintain a volume and type of advertising and sponsorship that does not deter users.⁵³ Facebook users will not continue to use Facebook or engage with commercial messages if Facebook misjudges user reaction. Therefore it makes sense to think of the Facebook advertising and sponsorship platform as an eco-system which tries its best to balance the desires of Facebook users – without whom Facebook could not exist – and advertising organizations. As I

⁵² [REDACTED] Plambeck Decl. at ¶ 38.

⁵³ Simon P. Anderson & Jean J. Gabszewicz, *The Media and Advertising: A Tale of Two-Sided Markets*, in *Handbook on the Economics of Art and Culture* 567 (Victor A. Ginsburg & David Throsby eds., 2006).

1 discuss below, each inhabitant of this ecosystem – Facebook, the advertiser, and the featured user –
2 benefits from it, oftentimes with the user receiving the greatest value.

3 **7.1 Compensation Received by Individual Users for Rebroadcast in Sponsored** 4 **Stories**

5 69. I have been asked to furnish my opinion concerning the extent and form of
6 compensation individual users may have received from the rebroadcast of their Likes and other
7 connections in Sponsored Stories. One challenge with doing that is that the wide variety of
8 motivations and contexts for a Facebook user's Like means that the any specific amount of
9 compensation or value received cannot be determined on an aggregate level using averages. Instead,
10 for each Like and each User, the value needs to be assessed on a case-by-case basis, with a view to
11 the goals and motivation of the user in a given context.

12 70. In many of the cases described above—including endorsement, expression, associative
13 cachet, community-building and political organizing—users' goals are directly facilitated and
14 enhanced by increased visibility, and therefore by the rebroadcast of the Like or other connection as a
15 Sponsored Story. In addition, in the case that someone has Liked an organization in order to receive
16 a discount or sample, but also wants their friends to have the opportunity to participate in the offer,
17 this motive would be enhanced by the Like and offer being rebroadcast as a Sponsored Story.

18 71. There are other motives, such as those focused on private gain, which include getting
19 information or access to an organization or receiving some discount from the organization, that are
20 facilitated to a lesser extent by Sponsored Stories and other forms of social advertising, because the
21 benefit is experienced through the first Like rather than in proportion to the exposure of the user's
22 Like to his or her friends. However, it is reasonable to assume that the offer is less likely to be made,
23 or at least would be less attractive, if not for the potential that the organization could use the Like or
24 social action to its benefit in commercial messages. Accordingly, the opportunity to purchase
25 Sponsored Stories likely encourages organizations to offer the valuable incentives that users enjoy.

26 **7.2 Sponsored Stories are Valuable to Facebook and Organizations on Facebook**

27 72. Likewise, the value of Sponsored Stories to organizations and to Facebook itself varies
28 widely depending on the specific context and circumstances.

73. My own research shows that at least in the case of social advertising, there is little evidence that Facebook is charging more for ads with social features relative to regular ads. Indeed, in my research on the cost per click that a firm paid for their social advertising relative to their ads that were targeted more traditionally through demographics, the firm ended up paying less for every click for its social ads than it did for its other ads.⁵⁴

74. Moreover, my own research shows that it is not clear that the endorsement (that is, the featured username and profile picture) is one of the reasons that users click on Sponsored Stories. Before I was engaged as an expert witness in this case, I authored a research paper which studies social advertising on Facebook.⁵⁵ There, I present evidence suggesting that in many cases, the measured success of a social advertising campaign derives from the use of social targeting to select the group of users who are shown these ads. Social targeting occurs when ads are shown only to the Friends of people who have expressed an affinity for the product, as is the case with Social Ads and Sponsored Stories. In sociology this is referred to as “homophily”; the proverb “birds of a feather flock together” refers to the same phenomenon.

75. This ability to employ user friendship networks to identify potentially attractive advertising targets is incredibly powerful in itself, but it can work independently of an endorsement (and the photo or name of the friend). Therefore, to the extent that Facebook receives any increased revenue from a particular Sponsored Story campaign, this would still not be evidence that the increased revenue is a result of the endorsement. Instead, as is the case in my research, much of the improvement (if any) could be attributed to Facebook’s innovative use of social network data to target ads in a number of different ways. Of course, the extent to which the clicks and revenue earned by Facebook for a particular Sponsored Stories campaign result from such homophily, as

⁵⁴ Catherine Tucker, Social Advertising (Feb. 15, 2012), *available at* <http://ssrn.com/abstract=1975897>.

⁵⁵ Tucker, *supra* note 54. To be clear, this study was written about “Social Advertising.” As explained before, this is a distinct concept in the Facebook advertising space from Sponsored Stories because, unlike a Sponsored Story, the organization itself can add text to the message “Catherine Tucker likes this.” However, given that the only difference is whether or not there is an additional message from the organization inserted in the ad, there are reasons to think that the general findings will be similar. Indeed, Plaintiffs rely extensively on statements and research relating to Social Ads rather than Sponsored Stories.

opposed to the many other factors (size of endorsing users' social networks, perceived credibility within those networks, attributes of the brand or product, etc.), necessarily varies for each campaign.

76. Another way of approaching the question of whether Facebook revenues are increasing directly as a result of Sponsored Stories is to look at the price guides for suggested bids given to organizations even before the actual prices these organizations pay are determined by Facebook's auction system. A charity I am associated with, named "Growth Through Learning," uses Sponsored Stories to try and attract people to Like their page and support their cause. The charity, which helps girls in East Africa get a high school education, can use Facebook to obtain guidelines about the most they are likely to pay per click for different campaigns. In a recent test, this interface suggested a bid of \$1.08 per click for a Sponsored Story about a Page Like that would reach people whose friends are already connected to Growth Through Learning. This interface also suggested a bid of \$0.66 per click for a Sponsored Story about one of their supporters liking one of their postings. This latter kind of Sponsored Story would include the story of the African girl and her path to a high school education that inspired the Like.

77. However, there are other ways that the charity could target their ads—involving no user endorsement—that would mean that the charity would in all likelihood pay Facebook *more* per click than the Sponsored Story about the Like. Table 2 summarizes some examples. This shows that such organizations may have to pay more per click than the Sponsored Story if they use more conventional types of targeting methods.

Table 2: Different Cost per Clicks for Different Targeting

Group	Cost
(Sponsored Page Like Story) 2,340,400 people who live in the United States whose friends are already connected to Growth Through Learning	\$1.08
54,333,280 people who live in the United States age exactly 40 and older who are not already connected to Growth Through Learning	\$1.23
2,036,280 people who live in the United States age exactly 40 and older who are not already connected to Growth Through Learning who are in the category Computer Programming	\$1.39

Group	Cost
1,017,760 people who live in the United States age exactly 40 and older who are not already connected to Growth Through Learning who are in the category Golf	\$1.46

78. Last, the targeting improvements from Sponsored Stories are far from uniform. In my research, I found that users react in different ways to social marketing. For example, I found that in contrast to the average Facebook user, Facebook users who had expressed an affinity on their profile for Fashion Brands did not respond significantly to a Social Ad unless it contained an incremental tagline exhorting the user to “Be Like their Friend.” This suggests that there are large differences in the benefits that Facebook receives from Social Ads that depend on who sees the ad and the degree to which the specific audience responds to social influence.

79. One potential explanation for this high variation is that some products are better geared to social advertising than others. Another potential explanation for this high variation is the large degree of variation in social cues made possible by social advertising. My dissertation research also shows that there is a large degree of variation in the social cues and degree of influence provided by friends.⁵⁶ Many Facebook users have some friends whose Likes might be far more likely to encourage them to respond to a socially-enabled ad than others. For example, I might be far more influenced by my college roommate than by someone I met once at a conference. Not surprisingly, the value of the endorsement of a particular user varies dramatically as a function of the quality of that user’s relationships with those she is connected to on Facebook and the way that the user is perceived among her Facebook Friends.

80. It is important to remember that Sponsored Stories can only be successful if the motivations of the featured user, the receiver and the organization are in line. Nowhere is this clearer than in examples of commercial content that does not achieve its aims because of a lack of alignment between incentives. To take a personal example, the following story (Figure 20) appeared recently in my Facebook News Feed. Notably in this particular case, the claiming of the offer of a discount at Olive Garden was not received favorably by the user’s friends.

⁵⁶ Catherine Tucker, *Identifying Formal and Informal Influence in Technology Adoption with Network Externalities*, 54(12) Mgmt. Sci. 2024 (2008).



Figure 20: Negative Reaction to Sponsored Offer

7.3 Specific Examples of Relative Value

81. The relative value and utility experienced by a user, the user's network, Facebook, and the organization in connection with a particular Sponsored Story varies widely as a function of the nature of the benefit, the nature of the product, the nature of that person's friends and perception by her friends, and the particular context. To illustrate this, I highlight a few examples below.

82. First, suppose that I responded to a recent offer from Woodward at Ames, which is an upscale restaurant located near me in Boston. The offer was for 10% off the regular price of a meal, and I would be required to "Check In" at Woodward at Ames to take advantage of this deal, consequently broadcasting my patronage of the restaurant to my Friends.

83. Given the upscale prices at Woodward, a conservative estimate is that a dinner for two there would cost approximately \$250. This would have implied a discount of \$25. My check-in may have made the ideal Sponsored Story for Woodward at Ames as I have ten Facebook Friends who work in the Boston area who, like me, enjoy eating out. My friends who would have received my Sponsored Story may also have had the chance to receive \$25 or more off. Woodward definitely benefits as I previously was unaware of the restaurant and therefore my \$250 represents incremental revenue. Facebook also benefits from the Sponsored Story in some range between \$0.50 and \$2, but only if one of my friends clicks on the Sponsored Story. (If none of my friends click on the

1 Sponsored Story, Facebook would not receive any compensation, although I would still receive the
 2 monetary value of the discount I obtained). However, it seems likely in this case that both
 3 Woodward Restaurant and I would benefit more from this transaction than Facebook.

4 84. In another example, on January 26, 2011, New York & Company offered a \$50
 5 discount off a purchase of \$100 or more if you Liked them on Facebook. In this case the financial
 6 benefits were clear. If I Liked them I would receive \$50 off clothes, and potentially New York &
 7 Company could persuade me to spend substantially more than \$100 in their store and recoup their
 8 investment. Facebook would benefit again in a range of \$0.50 to \$2 for each click that my Like
 9 Sponsored Story generated, but also might receive nothing if the Sponsored Story generated no
 10 clicks. Given that I only have 350 friends, any Sponsored Story generated based on my Like would
 11 have to have received an unheard-of click-through rate for Facebook to have benefited more
 12 financially than I did from the deal.

13 85. A final example is a case where I as a user gain absolutely no financial benefit at all.
 14 My children suffered from a disease called "Twin-to-Twin Transfusion Syndrome" prior to birth.
 15 Since this is a disease which receives little attention and funding, I try to publicize it and support it
 16 whenever possible. One way I do this is by participating in (when possible) and supporting the Race
 17 for Fetal Hope 5k race, which brings together twin survivors and parents afflicted by the disease in a
 18 race to raise money. This year, I was unable to participate but I still show my support by Liking the
 19 organization. If the Race for Fetal Hope uses Sponsored Stories, my motivations in pressing the Like
 20 button would be highly enhanced and aided. First, I would be aided in my aim to publicly show
 21 support for this charity and the race which goes to fund their efforts. Second, the rebroadcast of the
 22 Like might encourage other friends to support (or participate in) in a charity I care deeply about.
 23 Third, there is a remote chance (and I realize that this is remote) that some of the information about
 24 fetal disease would help a pregnant friend get specialized medical help early on in her pregnancy if
 25 she needed it. The charity would benefit from rebroadcasting my Like as a Sponsored Story if it
 26 encourages donations or participation in the race. And Facebook would again benefit if someone
 27 clicked on the Sponsored Story, again probably in the range of \$0.50-\$2 per click.

Figure 21: Race for Fetal Hope Example



8. Overall Benefits of Sponsored Stories to Facebook Users and Members of the Proposed Class

86. I have been asked to provide my opinion concerning the impact to members of the proposed class—specifically, the more than 90 million Facebook users who have appeared in at least one Sponsored Story—that would result from discontinuation of or modification to Sponsored Stories. Although I understand the complaint has focused on Sponsored Stories, it appears that Plaintiffs’ general complaint about the display of usernames and profile pictures in a commercial context might also implicate broader forms of social marketing (for example, the April 2010 Nielsen report that is Exhibit 3 in Kevin M. Osborne’s declaration refers to Social Ads not Sponsored Stories).

87. Facebook is supported by advertising revenue. The operational costs of furnishing customized, real-time content to more than 845 million users are immense. In its recent IPO filing,

Facebook revealed that it incurred costs of \$1.9 billion, including \$388 million in research and development, in 2011.

88. Plaintiffs' proposed injunctive relief—which demands that Facebook implement an “opt-in” system of social marketing⁵⁷—may pose a serious threat to Facebook's continued ability to support itself through advertising. Prior to my engagement in this case, I researched the effects of opt-in regulation and restrictions in Europe on the advertising-supported internet, and found that these regulations decrease the effectiveness of online advertising by 65%.⁵⁸ This effect was even more profound for websites (such as Facebook) that have a broad and diverse user base. Such a decrease in advertising effectiveness could have a dramatic and adverse impact on both the number of organizations that are willing to market through Facebook and the revenue Facebook can generate. If injunctive or monetary relief were to curtail Facebook's ability to support itself through advertising, this would inhibit Facebook's ability to continue to innovate, and potentially deprive users of valuable means of communication and expression.⁵⁹

89. In addition to supporting a free service for users, there are other, broader benefits to users that are less easily quantifiable, but that could be endangered if Facebook is unable to support itself through advertising. For example, Deborah Kogan was able to correctly diagnose that her son Leo had Kawasaki disease via her Facebook support network, after the medical establishment was unable to supply the correct diagnosis.⁶⁰ Jeff Kurze, a 35 year-old from Michigan, was able to find a living kidney donor after posting about his need on his wall.⁶¹ After being abandoned as a day-old

⁵⁷ Plaintiff Susan Mainzer's Response to Defendant's Interrogatory No. 25.

⁵⁸ Avi Goldfarb & Catherine Tucker, Privacy Regulation and Online Advertising, 57:1 Mgmt. Sci. 57 (2011).

⁵⁹ As stated by Mike, 31, Atlanta, GA: “Thanks to Facebook, I've met up with distant relatives and friends from my childhood, high school, and college days. I love seeing their pictures and what's going on in their lives. They're now a huge part of my life and I owe it all to Facebook.” ExactTarget with CoTweet, Subscribers, Fans, & Followers Report No. 5: Facebook X-Factors (2010).

⁶⁰ Elizabeth Flock, *Kawasaki Disease Diagnosed on Facebook, Helping to Save Leo Kogan's Life*, Wash. Post (July 15, 2011, 12:41 PM), http://www.washingtonpost.com/blogs/blogpost/post/kawasaki-disease-diagnosed-on-facebook--saving-leo-kogans-life/2011/07/15/gIQAtkOKGI_blog.html.

⁶¹ Amina Khan, *Waiting for a Kidney? Try Facebook*, L.A. Times (Apr. 6, 2011), <http://articles.latimes.com/2011/apr/06/news/la-heb-facebook-kidney-20110405>.

1 baby many years ago, Mia Flemming was able to identify the two teenagers who rescued her via
2 Facebook.⁶²

3 90. An obvious question is how happy users are with the status quo where the free internet
4 is financed through data-enriched targeted advertising where opt-out (or even no controls) are the
5 norm. In the recent FTC report “Protecting Consumer Privacy in an Era of Rapid Change,”⁶³
6 Commissioner J. Thomas Rosch refers to a study conducted by Omnicom Media Group’s Annalect
7 Group finding that 84 percent of online users prefer the collection and use of their information by
8 organizations for targeted advertising in exchange for free content as a mechanism for supporting the
9 internet.⁶⁴ This is true despite the fact that in most online advertising models, as opposed to
10 Facebook’s, the exchange of user information is imperceptible and transferred to an unknown third-
11 party ad network.

12 91. Class members would incur other costs if the republishing of Likes and social actions
13 was restricted as well. On average each day, there are 50 million likes per day for pages on
14 Facebook.⁶⁵ Restrictions on the republication of Likes via Sponsored Stories (and similar
15 rebroadcasting mechanisms) would directly harm the interests of these class members who want to
16 broadcast their endorsement and/or affinity.

17 92. The complete ban on Sponsored Stories for minors could hurt teenagers because, as
18 discussed above, they predominantly use Likes and social actions for self-expression and social
19 identity. Therefore, they are the most likely to fall within the category of Facebook users whose
20 republication of a Like or other social action as a Sponsored Story actually facilitates the user’s initial
21 goal in Liking or otherwise connecting with the organization. Indeed, research on this topic has
22 emphasized that for teenagers, the use of social networks has become a key source of identity.⁶⁶

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24 ⁶² Michael E. Ruane, *Woman Abandoned in Fairfax as a Baby Finds Her Rescuers*, Wash. Post (Dec. 17, 2009),
25 <http://www.washingtonpost.com/wp-dyn/content/article/2009/12/16/AR2009121604240.html>.

26 ⁶³ Fed. Trade Comm’n, *Protecting Consumer Privacy in an Era of Rapid Change: Recommendations for Businesses and Policymakers* (2012).

27 ⁶⁴ This was an online survey of 758 adults aged 18 and older.

28 ⁶⁵ Leena Rao, *Facebook Ad Sales Chief: There Are 50 Million Likes per Day for Pages*, TechCrunch (May 24, 2011),
<http://techcrunch.com/2011/05/24/facebook-ad-sales-chief-there-are-50-million-likes-per-day-for-brands/>.

⁶⁶ Danah Boyd, *Why Youth (Heart) Social Network Sites: The Role of Networked Publics in Teenage Social Life*, in *Youth, Identity, and Digital Media* 119 (David Buckingham ed., 2007).

93. Social forms of advertising furnish important incentives for companies to offer discounts, free samples, and other inducements. Attempts to limit the Like button and resulting forms of organic and paid social advertising would prevent at least some of the millions of class members from accessing the discounts and offers that they previously enjoyed.

94. Another potential harm to many Facebook users would be that they may not be able to see interesting content from their friends that is republished as a Sponsored Story. For example, Figure 22 is a Sponsored Story which rebroadcasted a review a colleague of mine had written about a book on the scientific community and the issue of climate change which I may have missed in my News Feed. When the Sponsored Story prompted me to read his review, I benefited directly, as I both found out about a book and found out about his assessment. [REDACTED]

[REDACTED]

[REDACTED]



Figure 22: Readers benefit from reading this Sponsored Story.

95. Plaintiffs' proposed injunctive relief introduces many hurdles that will interrupt the Facebook user experience. The proposed relief imposes new burdens at sign-up, restricts access to Facebook until users have acknowledged certain changes to Facebook's terms of use, and foists upon users a multi-layered opt-in/out process. Indeed, Plaintiffs' proposed relief would require a user to review a dialog box and opt-in to Sponsored Stories every time he or she Likes an organization, listens to a song on Spotify, or reads a newspaper article. Similar dialog boxes would appear for each organization purchasing Sponsored Stories (at least) every thirty days thereafter. Given the sheer

⁶⁷ [REDACTED] Plambeck Decl. at ¶ 25.

1 volume of social actions in which users engage on a daily basis (e.g., an average of 50 million Likes
2 per day), the immense burden such a system would create is self-evident.⁶⁸

3 96. These extensive procedures, which have not been subject to any usability studies to
4 elicit how users feel about these extra burdens, will lead at least some (and likely many) users to have
5 a more interrupted and potentially annoying experience. My own research shows that such
6 interruptions reduce overall usage of technologies, thus suggesting that users' ability to enjoy
7 Facebook as a whole may suffer.⁶⁹

8 97. In general, a broader though less easily quantifiable concern that I have is the effect
9 that imposing overarching constraints on the advertising-supported internet may have on future
10 innovation. Recent research by Josh Lerner, a Professor at Harvard Business School, has echoed this
11 concern.⁷⁰ Similar to my research, he finds a large negative effect from European-style restrictions
12 on how companies obtain consent for the use of data, in terms of funding for new start-ups and, by
13 association, the growth of the technology sector.

14 98. I declare under the penalty of perjury and under the laws of the United States of
15 America that the foregoing is true and correct and based upon my personal knowledge and/or
16 professional opinions, and that if called upon to testify, I could verify the accuracy of the same. This
17 document was executed in the city of Cambridge, Massachusetts on April 19, 2012.

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21 CATHERINE TUCKER

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25 ⁶⁸ Leena Rao, *Facebook Ad Sales Chief: There Are 50 Million Likes per Day for Pages*, TechCrunch (May 24, 2011),
<http://techcrunch.com/2011/05/24/facebook-ad-sales-chief-there-are-50-million-likes-per-day-for-brands/>.

26 ⁶⁹ For details of how interruptions imposed by security processes affect users' usage of a technology, see Anja
27 Lambrecht, Katja Seim & Catherine Tucker, *Stuck in the Adoption Funnel: The Effect of Interruptions in the
Adoption Process on Usage*, 30:2 Marketing Sci. 355 (2011).

28 ⁷⁰ Josh Lerner, *The Impact of Privacy Policy Changes on Venture Capital Investment in Online Advertising
Companies* (2012).